



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/590,654   | 10/05/2007  | Peter Merz           | 129021              | 2150             |
| 27049 7590 01/20/2011<br>OLIFF & BERRIDGE, PLC<br>P.O. BOX 320850<br>ALEXANDRIA, VA 22320-4850 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| ORLANDO, MICHAEL N   |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 1745   |             |                      |                     |                  |
| NOTIFICATION DATE  |             | DELIVERY MODE        |                     |                  |
| 01/20/2011   |             | ELECTRONIC           |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction27049@oliff.com  
jarnstrong@oliff.com

# Office Action Summary

## Application No.

10/590,654

## Applicant(s)

MERZ ET AL.

## Examiner

MICHAEL N. ORLANDO

## Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12, 19 and 21-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 13-18, 20 and 33-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-942)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

The arguments submitted 12/01/2010 have been fully considered, but the merits of the claims remain unpatentable as set forth below.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-12, 19, and 21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer (WO 03/093387) as cited through its English language equivalent (US 2005/0159511), in view of Harrison et al. (US H2047 H).

Regarding claim 1, Kramer discloses an adhesive useful for bonding metal automobile components whereby the adhesive comprises the claims epoxy ([0024]), the claimed epoxy adducts B, B1 and B2 ([0026]-[0029]), the reaction product of the epoxy adduct with isocyanate groups from a polyurethane prepolymer ([0063]) and the curing agent which is activated by elevated temperature ([0039]).

While Kramer does indicate that the adhesive can be converted to a hotmelt by reacting the free hydroxyls (namely on the epoxy adduct) with isocyanates or isocyanate prepolymers, Kramer is vague as to the guidance of reacting hydroxylated epoxies with isocyanate type prepolymers.

Harrison, drawn also to the automobile bonding art, discloses a hotmelt adhesive (claim 9) that includes the reaction of a hydroxylated epoxy with an isocyanate type prepolymer (column 11, column 13, lines 17-22). Harrison discloses that the polyisocyanate may be in excess to all the other components (column 13, lines 10-15), discloses that the epoxide groups can also be reacted with the polyisocyanate to form an oxazolidine polymer matrix (column 12, lines 10-20) and also discloses that the reaction product produces great bonds to even oily substrates, reduces warpage and reduces corrosion (column 10, lines 7-22). In light of Harrison's teachings and in light of

Kramer's general guidance it would have been obvious to have reacted the hydroxylated epoxy adducts with polyisocyanates and/or polyisocyanate type prepolymers in order to produce a strongly adhering, stable, hotmelt adhesive. The additional isocyanate (applicant's K2) is evidenced by the ranges set forth by Harrison (column 13, lines 10-15) and by the desire to create an intricate polymer matrix as set forth by Harrison (column 12, lines 10-20).

Regarding claim 2, Kramer discloses the epoxy as liquid ([0024]).

Regarding claim 3, Kramer discloses the claimed dicarboxylic acid and diglycidyl ether ([0026]).

Regarding claim 4, Kramer discloses the B2 adduct as presently claimed ([0027]-[0028]).

Regarding claim 5, Kramer discloses the claimed molecular weight values for the epoxy adduct ([0030]).

Regarding claims 6 and 9, Harrison discloses the claimed prepolymers (column 11; column 13, lines 17-22).

Regarding claim 7, Harrison discloses producing a polyurethane prepolymer first which would result in an isocyanate end capped product that is then reacted with rest of the composition (column 13, lines 17-22). Reacting the product with the epoxy adduct of Kramer would naturally product the claimed structure. Where the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of the

claimed product. Whether the rejection is based on "inherency" under 35 USC § 102, on prima facie obviousness" under 35 USC § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products." In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-4 (CCPA 1977).

Regarding claim 8, Kramer discloses the claimed curing agents ([0039]).

Regarding claim 10, Kramer discloses the claimed epoxy resin to epoxy adduct ratio as suitable ([0032]).

Regarding claim 11, Kramer discloses the use of a filler in the claimed range ([0046]).

Regarding claim 12, Kramer discloses the use of a reactive diluent with epoxy groups ([0047]-[0055]).

Regarding claims 19, 21 and 22, Kramer discloses that the adhesive is useful for bonding automobile substrates ([0058]-[0059]). The claims are drawn to the product itself so while the method of arriving at the product may be different the actual bonded automobile composite produced with the epoxy-based adhesive is already known.

Regarding claim 23, Kramer discloses the claimed epoxy resin type ([0024]).

Regarding claim 24, Kramer discloses the dicarboxylic acid as a dimeric C4-C20 fatty acid ([0026]).

Regarding claims 25 and 26, Kramer discloses the claimed molecular weight values for the epoxy adduct ([0030]).

Regarding claims 27-30, Harrison discloses the claimed polyol selection (column 11, lines 1-12).

Regarding claim 31, Kramer discloses the claimed epoxy resin to epoxy adduct ratio as suitable ([0032]).

Regarding claim 32, Kramer discloses the use of a filler in the claimed range ([0046]).

#### ***Allowable Subject Matter***

5. Claims 13-18, 20 and 33-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record, while suggestive of the claimed adhesive fails to teach the claimed method of using that adhesive.

#### ***Response to Arguments***

6. Applicant's arguments filed 12/01/2010 have been fully considered but they are not persuasive.

The applicant argues the coexistence of B and F and argues that because Kramer reacts the hydroxyl groups with the isocyanate groups there is no B left in the adhesive.

The examiner disagrees and notes that the prior art suggests the present claims as it merely involves selecting an order of mixing ingredients and performing process

steps whereby the applicant has provided no showing of unexpected results. The Kramer document discloses all of the features of K1 and K2. The nature of E, B and F being present merely amount to a small pre-reaction between F and B and the rest being reacted later in the batch. Harrison drawn generally to the same field of endeavor is reasonably pertinent to the teachings of Kramer as the Harrison document provides some guidance as to what type of isocyanates where known to be used to react with hydroxyls in forming a hotmelt. The general adhesive of Harrison is not relied upon for its teachings, but rather the document is merely provided to elaborate on the teachings of Kramer in regards to suitable isocyanate choices. The examiner notes that mixing the ingredients of Kramer in a slightly different order by premixing some and mixing some in a batch does not constitute a patentable difference unless the applicant can show unexpected results. The adduct, the isocyanate and the reaction product are generally taught by Kramer. The courts have held that a selection of any order of mixing the ingredients or performing process steps is a prima facie case of obviousness unless the applicant can show unexpected results (*In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946); *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930)).

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within



TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL N. ORLANDO whose telephone number is (571) 270-5038. The examiner can normally be reached on Monday-Thursday, 7:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip C. Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MO

/Philip C Tucker/

Supervisory Patent Examiner, Art Unit 1745